

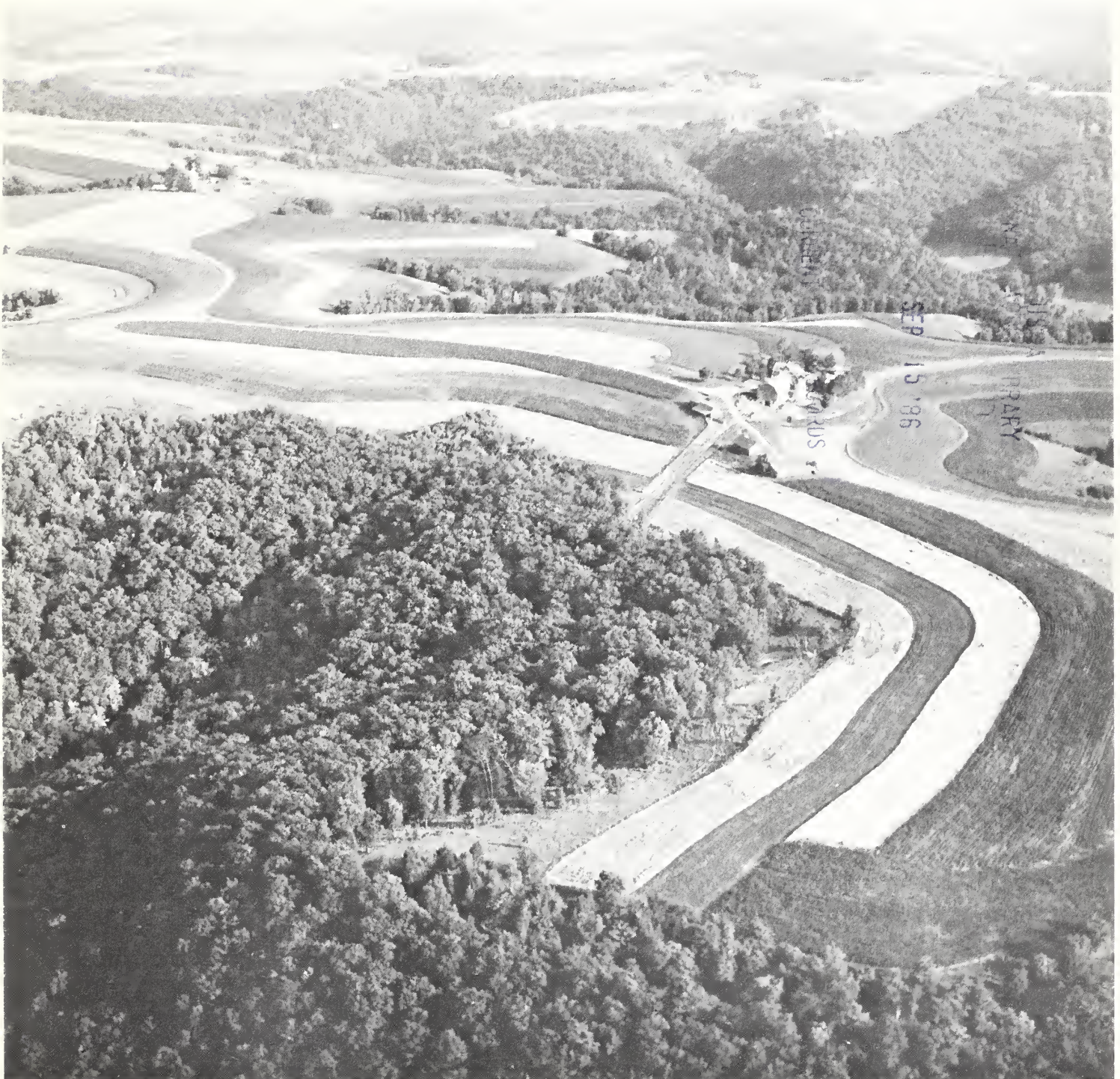
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Soil and Water Conservation News

United States Department of Agriculture
Soil Conservation Service

1985 Food Security Act— A Landmark Decision for Conservation



Magazine inquiries

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Guest Editorial

Getting the 1985 Farm Bill on the Land

We're off and running with the 1985 Farm Bill, the Food Security Act of 1985.

For months, retiring highly erodible cropland under the Conservation Reserve Program (CRP) has been the main order of business in many local Soil Conservation Service and conservation district offices. We fell short of our goal of enrolling 5 million acres in the Reserve for the 1986 crop year, but that's partly because farmers took a "wait-and-see" posture on a new program and because CRP is competing against crop deficiency payments. Also, many farmers had already decided on a cropping plan for this year.

Overall, the Department accepted bids from more than 30,000 farmers for almost 4 million acres, mostly for the 1986 crop year. We're still aiming for an additional 10 million acres in the Reserve next year, as well as 40 to 45 million acres overall.

Cooperation among all agencies in the U.S. Department of Agriculture (USDA) has been excellent. The need for this cooperation is going to continue as more landowners and operators see the value of the Reserve and understand the highly erodible land and wetland conservation provisions of the Farm Bill.

Interim regulations on these provisions were published in the *Federal Register* of June 27. They are going to do more to change soil and water conservation in the United States than any legislation since the 1930's. For the first time, conservation goals will be focused squarely on all Federal farm programs.

Producers who farm highly erodible land must have and follow a locally approved conservation plan if they want to be eligible for most USDA farm programs. Producers who convert wetlands to cropland will not be eligible for those same programs. These provisions apply to the whole farm, not just to the highly erodible land or converted wetland.

Here are some changes we can expect from these provisions:

- They will significantly increase the number of requests from landowners for conservation plans and technical assistance.
- They may increase pressure on SCS to focus assistance on areas with the most highly erodible lands. However, soil conservation will still be important in *all* areas of the Nation.
- They will emphasize the need for cost-effective, practical conservation systems.
- They will make some producers see both SCS and conservation districts as having more regulatory responsibility than before, even though the law does not, in the strictest sense, *require* conservation. Local conservation district officials will have greater responsibility.

We owe it to farmers to give them as much information as possible about how these provisions are going to affect them, and do it in a way they can understand.



Peter C. Myers
Deputy Secretary
of Agriculture

Cover: Contour stripcropping protects this highly erodible cropland in Greenfield, Wis.

1985 Food Security Act— What Does It Mean?



Farmers will need more help in planning and applying conservation systems.

The 1985 legislation includes four major conservation provisions: (1) the Conservation Reserve, which helps farmers plant grasses or trees on highly erodible cropland; (2) swampbuster, which denies eligibility for certain U.S. Department of Agriculture (USDA) farm programs to farmers who convert wetlands to cropland; (3) sodbuster, which requires conservation systems to continue eligibility of farmers who break out highly erodible fields in order to plant crops; and (4) conservation compliance, which requires conservation systems to continue eligibility of farmers who continue farming highly erodible cropland.

These provisions will reduce soil erosion and improve environmental quality. They will affect every county that has highly erodible lands or wetlands. They will significantly increase the workload of the Soil Conservation Service and local conservation districts.

SCS Chief Wilson Scaling talks about the new farm legislation and how SCS and conservation districts will help farmers comply with its conservation provisions.

Q—Does the 1985 farm legislation make soil and water conservation mandatory?

A—No, it does not make soil and water conservation mandatory. Farmers won't be required to enroll land in the Conservation Reserve. But unless they carry out conservation systems on highly erodible fields that they plant to crops, they will be excluded from certain USDA programs. And if they converted wetlands after December 23, 1985, so they could plant crops, they will be excluded from those same farm programs.

Q—Which USDA programs are you referring to?

A—They are USDA price and income supports, disaster payments, crop

insurance, Commodity Credit Corporation storage payments, farm storage facility loans, Farmers Home Administration loans (FmHA), and all other programs where USDA offers payments related to commodity production.

Q—How do farmers determine if their land is highly erodible or if they have wetlands on their property?

A—The Soil Conservation Service is directed by law to make those determinations. The local conservation districts, where they exist, must approve the conservation plans and systems that the farmers will need if they farm highly erodible fields and want to retain their eligibility for USDA programs.

Q—What is the Conservation Reserve Program?

A—The Conservation Reserve is a voluntary program for retiring some of the most erodible cropland in the United States. For the first two signups, almost 70 million acres of cropland nationwide were eligible for the program. Beginning with the August signup, many severely gullied areas also became eligible, bringing the total eligible land to about 80 million acres.

In many cases, yields on these lands are lower than average. Even so, many farmers have come to rely on production from these lands. The Conservation Reserve helps participating farmers make the transition on highly erodible cropland to permanent grasses or trees.

The goal of the Reserve is to encourage farmers to take highly erodible cropland out of production—in all, 40 to 45 million acres by 1990. USDA pays half the cost of establishing grass or trees and an annual rental payment on land accepted for the Reserve. In return, farmers agree to maintain the grass and trees for at least 10 years.

Q—How do farmers sign up for the Conservation Reserve?

A—Farmers who want to enroll land in the Reserve submit bids to the county office of the Agricultural Stabilization and Conservation Service (ASCS). Each bid specifies the payment that the farmer would

accept to retire individual fields, through the program. ASCS ranks all bids within each of many substate "bid pools" across the country. The Secretary of Agriculture then establishes a maximum acceptable bid for each pool. Producers whose bids are at or under the established maximum are accepted into the program once SCS determines that their land is highly erodible.

Interested farmers must certify that the land they want to place in the Reserve was planted to an agricultural commodity or used for diverted acreage under a USDA commodity program at least 2 of the 5 years from 1981 to 1985.

Q—Who determines if farmers' land is eligible for the Reserve?

A—SCS soil conservationists determine whether or not the land is highly erodible and thus eligible for the Reserve. This usually means making a trip to the farm to determine land capability and estimate the erosion rate on each field offered for the Reserve.

The land capability system includes eight classes. In general, the higher the class, the less well suited the soil is for crop production. Soils in classes VI, VII, and VIII are generally not suitable for

crops but can support pasture or trees. Such lands are automatically eligible for the Conservation Reserve. Capability classes are determined from soil surveys. Where a soil survey does not exist, SCS will make a soil map upon request.

Q—Is land in capability classes VI, VII, or VIII the only land eligible for the Conservation Reserve?

A—Land in classes II, III, IV, or V that has severe soil erosion also is eligible. For the Conservation Reserve, severe erosion means a rate more than three times the "tolerable" rate of soil erosion—the rate at which natural processes can replace the lost soil and still maintain the soil's productivity. Soils eroding at more than two times faster than the tolerable rate are also eligible if the field contains serious ephemeral and gully erosion.

Q—How many signups have there been?

A—There have already been three signup periods for the Reserve—in March, May, and August. ASCS will announce additional signups.

Funds for the Conservation Reserve Program are available through 1987. Congress must appropriate funds to continue the program after that. We expect this to



Rill erosion is one effect of farming highly erodible land without an adequate conservation system.

happen. But, early signup gives farmers a better chance to participate in the program if Congress doesn't extend the funding.

During the first two signups, USDA accepted more than 33,000 applications for some 3.8 million acres. Final figures on the August signup are not yet available.

Q—Who can farmers ask for technical assistance?

A—SCS specialists and State foresters can advise farmers on establishing permanent cover and installing conservation practices as required by conservation plans. Conservation districts, where they exist, approve all conservation plans for lands to be retired under the Reserve.

Q—What are the short- and long-term restraints on farmers who place land into the Reserve?

A—Farmers may not make commercial use of the Reserve land so long as the contract is in effect. This means no grazing or cutting hay on Reserve lands. On land planted to trees, no commercial harvest of any wood product is allowed during the life of the contract. This will minimize economic impacts on the existing cattle, forage, and wood products industries.

Farmers may withdraw from the Reserve at any time. If they do, however, they must reimburse the Government, with interest, for all payments they received for cover establishment and annual rental.

Once the Reserve contracts expire, farmers may choose to return the land to cropland. However, most land retired under the Reserve will be subject to the highly erodible land provisions of the 1985 Food Security Act. This requires the land to be managed according to a locally approved conservation plan if the farmers plan to participate in certain USDA farm programs.

Q—Why were the swampbuster, sodbuster, and conservation compliance provisions needed?

A—The Government has in effect encouraged increased soil erosion and loss of wetlands by promoting maximum production through USDA farm subsidies.

These provisions of the 1985 Food Security Act remove incentives to farm highly erodible land or convert wetlands for crop production. These provisions disqualify farmers from participating in most USDA farm programs if they produce crops on highly erodible fields—unless they follow a conservation plan approved by the local conservation district—or if they convert wetlands in order to plant crops.

Q—How do you define “highly erodible” for the sodbuster and conservation compliance provisions?

A—Soils with an inherent potential to erode at least eight times faster than natural processes can rebuild them are considered highly erodible. The inherent potential for erosion does not consider protection of the soil by crops or conservation practices. For example, any land that has the potential to erode at a rate of more than 40 tons per acre annually if kept fallow all year and didn't have any conservation practices installed would be covered if it had a “T” or tolerance value of 5 tons per acre per year.

Q—What's the main difference between the sodbuster and conservation compliance?

A—In addition to cropping history, the primary difference between the sodbuster and conservation compliance is the effective date for each. Sodbuster applies to any land not used for crop production any time between December 31, 1980, and December 23, 1985 (the date the Food Security Act went into effect). However, farmers who broke out land after that date but planted an agricultural commodity crop before June 27, 1986 (the date that USDA published rules on this provision), will remain eligible for USDA programs for that crop during the 1986 crop year. To retain eligibility for subsequent crop years, however, farmers must use a locally approved conservation system.

Conservation compliance is applicable to highly erodible cropland that was being farmed any year 1981 through 1985. There is a grace period on implementing this provision, however, because of the hardships it would impose on farmers who have already established a cropping history. It would also be an impossible single-season workload for SCS field staffs and local conservation districts to help farmers plan and apply the measures that will be needed for compliance with a conservation plan. Therefore, farmers have until January 1, 1990, to develop and be actively



A conservation system that includes crop rotations, farming on the contour, and gradient terraces with grassed waterways protects this highly erodible cropland in Lorton, Nebr.

applying a conservation plan, and until January 1, 1995, to have it fully in effect.

Where a soil survey of the land is not available, farmers have until 2 years after the soil survey is completed to be actively applying their conservation plans.

Q—What does a conservation plan include?

A—Conservation plans must include specific conservation measures that will not allow excessive soil erosion. They may include such management practices as conservation tillage, stripcropping, or contour farming, which can reduce erosion at a fairly low cost. They may also include practices such as terraces and grassed waterways that are more expensive to install. Some lands are so erodible that erosion can only be controlled by converting the land to grass or trees. Other practices may be needed to control gully erosion. The regulations that were published in the Federal Register on June 27, 1986, say that the conservation plan must provide for the reduction of soil erosion to the tolerable level in most places. The plan may provide for soil erosion up to twice the tolerable level where SCS determines that reduction to a lower level is impracticable. This exception is based on the reasonable judgement of local professional soil conservationists and includes consideration of the economic consequences.

Q—What is the wetland conservation provision of the 1985 Food Security Act?

A—The wetland conservation provision, commonly referred to as “swampbuster,” is designed to prevent the needless conversion of wetlands to cropland. Some have estimated that less than half of the wetlands that existed when America was first settled still exist.

Q—Why should wetlands be conserved?

A—Wetlands are some of America’s most diverse and productive lands for fish and wildlife. They help control floods by temporarily storing water during storms. They trap pollutants. They help recharge aquifers. And they provide recreational opportunities.

Wetland soils are also often highly productive when drained and planted to crops. Farmers can increase their production dramatically in many cases by draining and converting wetlands. But in doing so they may also diminish a valuable habitat for fish and wildlife and contribute to existing surpluses.

Q—What if farmers do convert wetland to cropland?

A—Farmers who drain and convert wetlands to produce crops are not eligible for certain USDA programs, any year production occurs.

Q—How can farmers determine if they have wetland areas?

A—Wetlands are composed mostly of soils that are covered with standing water or saturated during at least part of the growing season (hydric soils) and that support mostly water-loving (hydrophytic) plants. SCS technicians will help farmers determine whether their land includes wetlands by using soil maps or making onsite inspections.

SCS will publish a list of hydric soils and maintain a list of hydrophytic plants.

Q—Who must comply with the swampbuster provision?

A—Farmers who began the conversion of wetlands before December 23, 1985, are exempt from the swampbuster provision. Farmers who drained wetlands since that date and planted a crop on them before June 27, 1986, retain their eligibility for covered USDA programs for the 1986 crop year only. To retain eligibility on the rest of their farm for subsequent years, farmers must stop producing agricultural commodities on the converted wetland area.

Conversions of artificially created wetlands, including wetlands created by irrigation, are also exempt. Farming wetlands that become dry through natural conditions such as drought—prairie potholes, for example—is allowed under certain conditions, as determined by the Soil Conservation Service.

Q—What will SCS responsibilities be under the “sodbuster,” “swampbuster,” and conservation compliance provisions?

A—SCS will:

- Identify highly erodible fields and wetlands.



The suitability of land for crop production is determined from Soil Conservation Service soil maps. Soil maps are also used in determining whether or not land is highly erodible or includes wetlands.

- Help farmers develop and carry out conservation plans;
- Determine when farmers are actively applying conservation plans; and
- Determine the adequacy of existing conservation systems.

SCS determines whether the field is highly erodible or a wetland area by consulting soil maps or by visiting the site. SCS is developing a list of soil map units that denote areas of highly erodible soils or potential wetlands. Even where such maps are available, onsite inspections may be required to verify the determination.

Where soil maps are not available—and such maps are not available for about 30 percent of the Nation's nonfederal land area—SCS will prepare them.

Q—What role will conservation districts play under these provisions?

A—Conservation districts, where they exist, must approve all conservation plans in consultation with local ASCS committees. (In the 2 percent of the Nation not included in conservation districts, that responsibility falls to SCS.) With this responsibility, conservation districts become a major partner with USDA in insuring that highly erodible land and wetlands are adequately protected.

Q—What are farmers' options under "sodbuster," "swampbuster," and conservation compliance?

A—Farmers who want to produce agricultural commodities on highly erodible fields or converted wetland have several options

- They can produce agricultural commodities on highly erodible fields without using an approved conservation plan and lose eligibility for covered USDA programs;
- Likewise, they can produce commodities on newly converted wetlands and lose eligibility;
- They can produce commodities on highly erodible fields that are protected by a conservation system and retain eligibility; or
- They can plant grasses or trees on their highly erodible field (eligible farmers may elect to enter their land into the Conservation Reserve).

Q—What if a farmer disagrees with an onsite determination made by SCS?

A—Farmers may appeal adverse determinations made under the conservation provisions. For SCS, this means that farmers who disagree with an onsite determination made by SCS may request the local SCS representative to reconsider the decision. Those who still disagree may appeal, in sequence, to the area conservationist, State conservationist, and chief. Farmers may also appeal adverse determinations made by other USDA agencies through the normal appeals procedure of the agency involved.

Q—What about conservation easements?

A—Another major provision in the 1985 Food Security Act authorizes the Secretary of Agriculture to purchase and retain easements in uplands, wetlands, or highly erodible lands for conservation, recreation, or wildlife uses for at least 50 years. To qualify for such an easement, the land must secure an FmHA loan that the farmer cannot repay in a timely manner. In return for the easement, the Secretary will cancel a part of the debt at the same ratio of the land entered into the easement compared to the total land secured by the loan.

Q—What do the conservation provisions of this new legislation really mean for farmers?

A—Before now, a producer's decision to become a district cooperator and apply soil and water conservation measures to his or her land was strictly a voluntary decision. Likewise, if a producer chose not to become a district cooperator and not to carry out a conservation plan, this carried no penalties.

Producers can still convert highly erodible land or wetland to cropland, and can continue to farm highly erodible fields that were in production before 1986. They can still sell their products on the free market. However, producers who decline to develop and carry out conservation plans will not be eligible to participate in most USDA programs. Many may see this as a substantial penalty for breaking out highly erodible land, converting wetland, or failing

to practice conservation on existing cropland.

Although the provisions are not regulatory in the most restrictive sense, because a producer can still choose to farm without participating in USDA programs, some producers will see the role of USDA agencies and conservation districts as more regulatory than in the past.

Q—What does the new legislation mean for SCS?

A—For SCS, the new legislation will:

- Require even closer cooperation on a day-to-day basis with other USDA agencies than has been required in the past;
- Significantly increase the number of requests for conservation plans and technical assistance in implementing such plans;
- Emphasize the need for high-level technical expertise to develop conservation systems that are cost effective and practical; and
- Require the district conservationist and staff to make decisions that may not be popular with producers who will now be required to install some conservation practices that they may not really want in order to retain eligibility for participation in USDA programs

Q—What do the conservation provisions of the 1985 Food Security Act mean for conservation districts?

A—Conservation districts will:

- Approve all conservation plans, in consultation with the county ASC committee as required for the highly erodible land provision. This will require a closer working relationship between the district boards and the county committees than has been required in the past;
- Provide more technical assistance than in the past and coordinate State cost-share programs with the provisions of the act; and
- Make decisions that have the potential for adverse economic effects on producers who want to participate in USDA farm programs. This will likely put district supervisors in situations that they have never had to face

Bidding For The Future: The Conservation Reserve

During the first two signup periods this year, United States farmers enrolled more than 3.8 million acres of highly erodible cropland in the new Conservation Reserve Program (CRP).

The participating farmers will receive an average of \$44.23 per acre per year to take this land out of crops and keep it in grass or trees for the next 10 years. The grass and trees will protect the soil from erosion. Costs of establishing the grass and trees will be equally shared by the farmers and the Federal Government.

The CRP is part of a long-range effort by the U.S. Department of Agriculture to stabilize crop production and protect soil and water resources. The program is intended to help farmers retire up to 45 million acres of highly erodible cropland by 1990.

Economists, conservationists, producers, and land-use planners have hailed the new program, which was established by the Food Security Act of 1985, as sound and long overdue. If land has to be taken out of crops to prevent surplus production, they say, then it only makes sense to remove the fragile, highly erodible land that is least suited to crops.

Over the years, the Soil Conservation Service has surveyed, classified, and determined the capabilities and limitations of most of the Nation's soils. Cropland is considered highly erodible and is eligible for the CRP if the soil is in capability classes VI, VII, or VIII. Most of this land is too steep or shallow for cultivation. Also eligible are soils in classes II, III, IV, and V if they are eroding at least 3 times faster than they are being replenished. Soils eroding more than 2 times faster than they are being replenished are also eligible if the field contains serious gullies.

Farmers with highly erodible cropland can offer to set it aside in the CRP through a bidding process. The farmers tell the Government how much money (in dollars per acre per year) they would want to keep the land in grass or trees for 10 years. The Government then accepts the lowest bids it receives during the signup period.

Since there had been no precedent, bidding during the first signup period in March varied widely and only 15 percent

of the bids were accepted. A farmer in one State where land values have been traditionally high offered to retire his land for \$700 an acre (his bid was not accepted). Other bids were as low as \$5 per acre. But during the second signup period in May, the bidding was more consistent and more than 67 percent of the bids were accepted.

Across the Nation, response to the CRP has been as varied as the land and the people who work it. Farmers are generally aware of the financial and environmental costs of cropping highly erodible land. And with technical assistance from SCS and cost sharing through the Agricultural Stabilization and Conservation Service (ASCS), the farmers participating in the program are finding other, more suitable uses for this land.

Greatest response to the program has been in the States with the most eligible land, generally the farming States in the Midwest and South and parts of the West. These States report a heavy workload for SCS field staffs who determine the eligibility of the land and help the farmers plan the land-use conversions. CRP-related activities in some of these States include:

Colorado

With 620,611 acres enrolled, Colorado has more land in the CRP than any other State. So brisk were the signups in Pueblo County that a special exemption was granted to allow 27 percent of the cropland to be enrolled. Normally, no more than 25 percent of the cropland in any county can be placed in the Reserve, a limit designed to minimize the impact of the program on local economies. About 62 percent of the State's total acreage in the program is in three counties: Baca, Kiowa, and Prowers.

Georgia

Of the more than 95,000 acres accepted for the CRP in Georgia, more than 94 percent will be planted to trees. Most of this land is on the Coastal Plain in the southern part of the State.

Idaho

The Idaho Fish and Game Department has provided \$25,000 to CRP participants

to help pay for the establishment of wildlife plantings—vegetation that provides food, cover, and other elements of wildlife habitat.

Illinois

Soon after the passage of the Food Security Act of 1985, Illinois Director of Agriculture Larry A. Werries organized a 1-day "fly-around" to discuss with farmers the CRP and other aspects of the new legislation. He traveled to several locations across the State and was accompanied by representatives from USDA agencies and the Illinois Association of Soil and Water Conservation Districts.

Indiana

The Lake County Soil and Water Conservation District helped ASCS and SCS during the signups by obtaining a computer and adapting an educational program to calculate erosion rates for farmers who wanted to know if their land qualified for the CRP. The computer program allowed the farmers to see their current erosion rates compared to their future erosion rates if they joined the CRP. It also allowed the farmers to compare the income obtainable under different land uses, which was useful in preparing bids.

Minnesota

By the end of the second signup, Minnesota was first in the number of farmers enrolled (3,458), second in the amount of money that will be paid to the farmers



(\$14.3 million), and third in the number of acres enrolled (293,673). Much of the high enrollment has been attributed to a cooperative local, State, and Federal marketing approach that targeted specific audiences, such as retiring farmers and absentee landowners. Other factors that may have contributed include a recent 26 percent drop in average land values in the State and an unusually wet spring.

Missouri

Together with several ongoing State and private programs, the CRP will increase tree planting and the development of wildlife habitat in Missouri. To help with wildlife management, the Missouri Department of Conservation plans to assign a wildlife biologist to work with each of the seven SCS area offices. Wildlife management in the State has historically taken into account both consumptive and non-consumptive uses of wildlife.

Montana

Enthusiastic about the prospects for wildlife habitat development, the Montana Department of Fish, Wildlife, and Parks set aside \$20,000 for the Montana State Nursery to provide trees and shrubs without cost to farmers and ranchers who are establishing permanent wildlife habitat on their CRP land.

New Mexico

Many farmers in New Mexico—where wind erosion is a hazard—are planting windbreaks on their CRP land and installing drip irrigation systems to get the trees started. They will receive cost-sharing assistance on the trees and the irrigation systems.

North Carolina

District conservationists with SCS in North Carolina are reminding farmers that land placed in the Conservation Reserve does not have to remain unproductive. Although the retired land cannot be used for crops such as tobacco, corn, or soybeans, it can produce income if managed for wildlife habitat (by the collection of hunting fees) and future timber crops.

Ohio

Adopting the motto that "Every landholder is eligible until proven differently," the Ross Soil and Water Conservation District made an effort to inform every farmer within its boundaries about the CRP. The district publicized the signups through the media and followed this with letters, telephone calls, and personal visits. This effort was aided by a local paper company that offered to supply tree seedlings and help plant them for CRP farmers willing to oblige their future timber crop to the company. The result was that Ross County accounted for more than 50 percent of Ohio's total enrollment during the first signup and more than 20 percent during the second.

Pennsylvania

In Pennsylvania there is concern about the off-site damages associated with heavy rates of soil erosion, including loss of fish habitat, fewer recreational opportunities in streams and lakes, reduced reservoir capacity, and increased maintenance of navigable waterways. "Society is offering to pay the farmers in exchange for the farmers not causing the erosion and its related off-site damages," said William McSweeney, farm management extension specialist at The Pennsylvania State University.

Tennessee

USDA agencies, State natural resource agencies, and private farm and wildlife groups in Tennessee made a joint effort to explain the program to every farmer in the State who has eligible land. This effort, which had resulted in the enrollment of 72,000 acres by the end of the second signup, was helped by about 115 members of the SCS Earth Team, volunteers who made telephone calls to farmers, wrote newspaper articles, and organized informational meetings.

"I've been pleasantly surprised," said SCS State Conservationist Don Bivens, "about the concern for water quality. Tennessee has a clean-water campaign underway and this fits right in with it. It seems like nobody in Tennessee wants muddy water anymore and this program is going to make a real difference."

Texas

Texas farmers wanting to develop wildlife habitat are encouraged to plant annual food plots near the permanent CRP vegetation. Annual food plots are particularly beneficial to highly mobile species such as wintering waterfowl and can be planted on acreage set aside in the Acreage Conservation Reserve, another program administered by ASCS. The combination of annual and permanent vegetation will provide wildlife food and cover throughout the year.

Utah

An outdoors writer in Utah said the CRP could do more for restoring pheasant populations than any other development over the past 30 years. He said it will also improve water quality for fisheries and nongame wildlife.

Wisconsin

A forester in Wisconsin called the CRP the largest tree-planting program in United States history. According to Jeff Martin, forester with the University of Wisconsin Cooperative Extension Service, people in Wisconsin have been planting about 20 million trees per year and that figure could grow to 30 million under the CRP. He said it may take State and private nurseries a couple of years to gear up to meet the demand for seedlings.

"Trees help control soil erosion by water, provide wildlife habitat, improve water quality, beautify the landscape, protect fields from wind erosion, and eventually provide firewood," said Martin. "Besides that, many people simply like to plant trees."

Compiled by **Paul D. Barker**,
associate editor, *Soil and Water Conservation News*,
SCS, Washington, DC

USDA Issues Rules for Highly Erodible Land and Converted Wetlands

The U.S. Department of Agriculture (USDA) announced interim rules on June 25, 1986, to implement sections of the 1985 Food Security Act designed to remove inconsistencies between soil conservation goals and traditional farm commodity program benefits.

Effective immediately, producers who fail to meet the interim rules will not be eligible for commodity price support and other program payments, disaster payments, crop insurance under the Farm Crop Insurance Act, Farmers Home Administration loans, farm storage facility loans, and other farm program benefits.

USDA's action is designed to reduce soil loss caused by wind and water erosion; protect the Nation's long-term capability to produce food and fiber; reduce sedimentation and improve water quality; assist in preserving the Nation's wetlands; and lessen the incentives to produce agricultural commodities on highly erodible farmland.

With regard to highly erodible land, farmers will have a grace period to implement a conservation plan on land that was cultivated in any of the years 1981-85. Many will be able to develop and apply a conservation plan that will allow them to plant highly erodible land to grasses or trees either on their own or in conjunction with the Conservation Reserve Program.

Before January 1, 1990, or until 2 years after the Soil Conservation Service prepares soil maps for a particular area, producers will not lose eligibility under the highly erodible land conservation provisions for farm program benefits as the result of production of an agricultural commodity on highly erodible fields that were (a) cultivated to produce any of the 1981 through 1985 crops of an agricultural commodity; or (b) set-aside, diverted or otherwise not cultivated under a program administered by the Secretary of Agriculture for any such crops to reduce production of an agricultural commodity. These exemptions allow affected persons

to continue the production of agricultural commodities on highly erodible fields through January 1, 1990 (or until 2 years after SCS maps the land) without having to actively apply a conservation plan to retain program eligibility.

The provisions of the Food Security Act of 1985 which the interim rules implement are commonly referred to as conservation-compliance, sodbuster, and swampbuster provisions. Sodbuster provisions apply to any highly erodible land cultivated for crop production since December 23, 1985. Swampbuster provisions apply to the conversion of wetlands after December 23, 1985, for the purpose of producing agricultural commodities.

However, farmers who cultivated highly erodible fields or converted wetlands after December 23, 1985, and planted a crop before the date the interim rule is published will remain eligible for USDA program benefits for the 1986 crop year. To retain eligibility for subsequent crop years, however, the farmer must apply an approved conservation system on the highly erodible field. With regard to wetlands converted after December 23, 1985, the farmer cannot, except under limited circumstances, produce agricultural commodities on such lands after the date of publication of the interim rule and retain eligibility for farm program benefits.

Additional details of the interim rules were published in the June 27 Federal Register. The interim rule provided a 60-day public comment period ending on August 26.

There are an estimated 345 million acres of highly erodible agricultural land in the United States, of which 118 million acres are existing cropland and 5 million acres are wetlands with a medium-to-high potential for conversion to agricultural use.

Symposium Stresses Multiple Benefits of Windbreaks

The latest developments in research, design, and establishment of windbreaks for conservation highlighted the first International Symposium on Windbreak

Technology held in Lincoln, Nebr., June 23-27.

More than 375 people attended, including 100 speakers from 14 countries. The Soil Conservation Service sponsored the symposium jointly with several private and other public agencies and groups.

J.W. Sturrock of the New Zealand Department of Scientific and Industrial Research, in the keynote address, said that limited crop water supplies and higher costs of irrigation will require the use of windbreaks for conserving crop water.

"Combining windbreaks or shelterbelts with the production of commercial timber will gain in importance," Sturrock predicted.

"Making shelter needs and wood production compatible is important not only to increase the economic return from windbreaks," he said, "but also to counter the sometime unrealistic divorce of agriculture and forestry."

Symposium presentations emphasized the potential of windbreaks to increase crop and livestock production, decrease wind erosion, conserve energy, provide wildlife habitat, and assist in snow management.

Windbreaks, along with narrow field widths, crop residues left on the soil surface, and rough soil surfaces, are important factors in reducing wind erosion. In some cases, field windbreaks may provide the only wind erosion control measure in drought years.

Three symposium publications are or soon will be available: (1) abstracts of the symposium papers, compiled in a proceedings, \$7, (2) a bibliography of publications dealing with windbreaks, \$15, and (3) a textbook to be developed from selected symposium presentations, by January 1987, \$45. Address all requests for these publications to: International Windbreak Symposium, 101 Plant Industry, University of Nebraska-Lincoln, Lincoln, Nebr. 68583-0814.

Farm Family Takes Stand Against Soil Erosion

"Gully erosion was depleting our topsoil," said Jessie Stanford of Abbeville, Ala. "We were losing vast amounts of topsoil during the spring months, especially after the fields had been plowed before planting. With the soil loosened, a hard rain would cause small gullies that were difficult to cross with our farm equipment."

Stanford, who has been farming in the Bethlehem Community of Henry County for over 37 years, raises mainly peanuts, corn, and hogs. He's been farming the same fields since he was a child.

After several years of patching gullies in some of those fields, Stanford contacted the Soil Conservation Service field office in Abbeville for information and a cost estimate on ways that he could manage his soil resources better.

Stanford was familiar with the services that SCS provides because his father had been a cooperator with the Henry County Soil and Water Conservation District, and Stanford himself had worked with SCS through the conservation district on installing an animal waste lagoon on the farm about 6 years ago.

Stanford was particularly concerned about three fields on which he was growing peanuts in a 2-year rotation with corn or small grains. One field was 16 acres, one was 9 acres, and one was 5 acres.

Considering the 30 acres included in the three fields together, SCS estimated that Stanford was losing 16 tons per acre per year from sheet and rill erosion on 27 acres and 148 tons per acre from gully erosion on 3 acres. The "T" value, or acceptable annual soil loss, for the soils on the farm is 5 tons per acre per year.

"In Alabama, current methods of growing peanuts leave the soil exceptionally vulnerable to erosion in the spring and summer because the soil is loose and bare following land preparation and planting, and heavy rains usually occur during this period," said Earl Norton, SCS State Resource Conservationist in Auburn, Ala.

"Alabama agricultural experiment station scientists at Auburn University are working

on conservation tillage methods for growing peanuts that would involve leaving crop residues from a cover crop on the soil to protect it from erosion. However, this technology is still in the development stage," said Norton.

To reduce the soil erosion on Stanford's fields, SCS recommended that he construct terraces using existing grassed waterways on two of the fields and construct terraces with underground pipe outlets on the other one for which there was no suitable area for constructing a grassed waterway.

The cost of constructing terraces on the two fields with existing waterways was estimated at \$100 per acre. On the field that needed to have terraces and an underground outlet installed, the estimated cost was \$200 per acre.

The Agricultural Stabilization and Conservation Service (ASCS), working through the local ASC county committee, provides cost sharing to landowners at a 60-percent rate for installing conservation practices that control soil erosion on cropland fields. Based on this information, Stanford decided to terrace the fields and to apply for ASCS cost-sharing assistance.

After ASCS approved Stanford's application, SCS laid out and designed 6,566 feet of parallel terraces, 313 feet of a 6-inch diameter underground pipe outlet system, and a 0.2-acre filter strip.

With the help of his son, Jessie, Stanford did most of the work with his own equipment. This help cut some of the costs. Stanford constructed the terraces with his tractor and bottom plow. He borrowed other equipment to fill in the gullied areas and to haul dirt adjacent to the tile pipes. He hired a contractor to dig the trench for the underground pipe.

After completing the job, Stanford said, "The terraces weren't that hard to build, but filling the gullies was the key to getting a good parallel terrace system in. Also, the tile pipe system where there used to be a badly washed out area improved the looks of the field. The pipe system removes the rainwater slowly from the field so it no longer causes gullies."

Said Stanford, "Eroded land cuts your yields. I believe you get top yields from land that has been treated properly with terraces for controlling erosion. I want to leave the land in better condition for my children so that they can run the farm and reap the same benefits from the soil that I have."

James L. Smith,
district conservationist, SCS, Abbeville, Ala.

Adapted from an article in the April 23, 1986, issue of *Southeast Farm Press*.



On his farm in Abbeville, Ala., Jessie Stanford (left) and his sons, Ira (center) and Jessie check maturity of peanuts on a field protected by a parallel terrace system with an underground outlet. Runoff collects at the pipe and is carried underground to a stable outlet.

Moving?

Send present mailing label and
new address including zip code to:

U.S. Department of Agriculture
Soil Conservation Service
P.O. Box 2890, Room 6202-S
Washington, DC 20013-2890

Official Business
Penalty for private use, \$300

THIRD-CLASS BULK RATE
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New Publications

Environmental Control for Agricultural Buildings

by Merle L. Esmay
and John E. Dixon

The primary function of most agricultural buildings is the modification of outside climate. Therefore, some level of environmental control is necessary for livestock and poultry production, plant growth during certain seasons, storage of agricultural products, and machinery and equipment protection. This book describes the principles and dynamics of environments in agricultural buildings. It provides information on heat and vapor transmission, ventilation and air flow, and waste management in enclosed environments. Other topics covered include psychrometrics (air-water vapor relationships); heat production in poultry and livestock structures; air flow patterns; animal physiology and homeothermy; hot weather environment; cattle, swine, and poultry environmental systems; potato storage; and plant growth structures.

This text can be used for teaching courses in agricultural engineering and technology, or it may be useful to engineers and system designers. A few example problems are included with each chapter.

Copies of this 287-page text is available for \$45 from AVI Publishing Company, 250 Post Road East, P.O. Box 831, Westport, Conn. 06881.

Conservation Planning—You and Your Land

by the Soil Conservation Service

This brochure describes the assistance that the Soil Conservation Service can give to land users as they make land use and treatment

decisions. It tells of the many ways in which SCS can provide assistance in planning and implementing the conservation practices that go into making a successful resource management system.

For a copy of this brochure (Program Aid Number 1376), or for more information on developing a conservation plan, contact the local office of the Soil Conservation Service.

Pesticide Resistance: Strategies and Tactics for Management

Published by the National Research Council

The number of noxious insects, weeds, rodents, and plant pathogens that are resistant to pesticides is growing at an alarming rate. Yet, the rate of introduction of new pesticides has slowed dramatically during the last few years. The potential crop losses and disease epidemics posed by this situation prompted the National Research Council to sponsor a symposium that would bring together experts from a wide range of disciplines. Integrated into this book of symposium papers is a report by the Committee on Strategies for the Management of Pesticide Resistant Pest Populations. The book explores the problem of pesticide resistance; suggests new approaches to monitor, control, or prevent resistance; and identifies the changes in public policy necessary to protect crops and human health from the ravages of pests.

The book should be of interest to chemists, plant and insect scientists, ecologists, geneticists, chemical industry managers, health organizations, as well as policymakers and others involved in pest control.

This 471-page book is available for \$28.50 from National Academy Press, 2101 Constitution Avenue, NW., Washington, DC 20418.

Fertilizer Technology and Use

Edited by O.P. Engelstad

The third edition of this highly successful and popular book embodies the latest developments in fertilizer technology and use. The authors present current information on such topics as fertilizer markets; soil and tissue testing; production, marketing, and use of nitrogen, phosphorus, and potassium fertilizers; fertilizer use in relation to the environment, which includes concerns for nonpoint source pollution effects; and modern techniques in fertilizer application.

The 633-page text should be of particular interest to university staff and students, fertilizer industry representatives, and others with an interest in agriculture.

Fertilizer Technology and Use is available for \$40 (\$32 to Soil Science Society of America members), from SSSA Headquarters Office, Book Order Department, 677 South Segoe Road, Madison, Wis. 53711.

Methods of Teaching Agriculture

by L.H. Newcomb,
J. David McCracken,
and J. Robert Warmbrod

Competence in teaching methods, along with competence in technical subject matter, is essential to be effective as a teacher of agriculture. This text has been designed to help teachers and those preparing to be teachers become proficient at planning, managing, delivering, and evaluating instruction.

There are sections on specific methods of teaching. These are divided into two categories: methods used in group oriented instruction and methods which are centered more on the individual's pursuit of learning. A key feature of the book is its emphasis on problem-solving, which involves

teaching students to think and reason, as opposed to just memorizing facts.

The book also evaluates other teaching techniques, offering suggestions to improve them and ultimately student learning. In addition, there are sections on discipline, program planning, teaching the handicapped, teaching adults, evaluating instructions, and applying learned material. A sample lesson plan is included in the appendix.

The book can be used as the basic undergraduate method's text and is also suitable for use in several graduate courses.

This 362-page text is available for \$16.95 from The Interstate Printers & Publishers, P.O. Box 50, Danville, Ill. 61834-0050.

Field Measurement of Dinitrogen Fixation and Denitrification

Edited by R.D. Hauck
and R.W. Weaver

Papers in this book come from symposiums held by the Soil Science Society of America (SSSA) at their annual meetings. The authors explain and discuss the advantages and limitations of two measurement techniques being increasingly used by many scientists to measure nitrogen gain and loss under field conditions. The techniques are: the isotope-dilution technique for estimating biological nitrogen fixation and the acetylene blockage technique for estimating denitrification.

This 115-page book is available for \$18 (\$15 to SSSA members) from SSSA Headquarters Office, Book Order Department, 677 South Segoe Road, Madison, Wis. 53711.